These costs will not be avoided in their entirely; though, the size may change depending upon the operating facilities and overall structure of the potential resellers. In fact, their is a good possibility that we will have a larger proportion of these "miscellaneous" calls.

Q. PLEASE EXPLAIN HOW "DIRECTORY ASSISTANCE" EXPENSES ARE MISREPRESENTED BY MR. MONIGHETTI AS AVOIDABLE COSTS.

A. Mr. Monighetti misrepresents these expenses in the same fashion as he does for operator expenses, noted above, claiming that "AT&T will use its own operators." Even if AT&T were to employ its own operators, an undetermined amount of directory assistance expenses will continue to be borne by U S WEST on behalf of all resellers. Furthermore, any directory assistance costs that will be avoided will relate to the retail directory assistance product, not all services nor even all directory assistance services. "Avoided" cost calculations are irrelevant for services provided to carriers because they are governed by alternative provisions of the Act..

In certain states, U S WEST offers Directory Assistance service includes "free" requests, after which U S WEST levies a per-request charge. Even so, these "free" calls generate real costs to U S WEST and are not avoidable costs when offered as resold services. This issue of cost causation in that environment will need to be addressed.

Q. PLEASE EXPLAIN HOW "TESTING AND PLANT ADMINISTRATION" EXPENSES ARE MISREPRESENTED BY MR. MONIGHETTI AS AVOIDABLE COSTS.

A. Mr. Monighetti and others have inappropriately suggested how U S WEST should test and administer its plant facilities based on its own experiences. AT&T does not have current experience in the local exchange service market: therefore, they do not possess hard evidence to prove the amount of expenses, nor are they experts in the actual methods and procedures of testing, maintaining, repairing and administering a network similar to U S WEST's. It is one thing to test, diagnose and fix a problem with the interconnected bulk long distance facilities located in one building — an AT&T central office.

It's quite a different matter and responsibility for U S WEST to manage facilities scattered geographically — virtually down every street or alley. Such will be the case when a CLEC resells U S WEST services. So Mr. Monighetti falsely attempts to justify why expenses for AT&T's long distance business are inferred to be the same as U S WEST's expenses to manage local exchange service, universal service and carrier of last resort responsibilities. As such, he has failed to quantify any bona fide costs that will be avoided in this category.

Q. PLEASE EXPLAIN HOW "SALES & PRODUCT ADVERTISING" EXPENSES ARE MISREPRESENTED BY MR. MONIGHETTI AS AVOIDABLE COSTS.

A. These expenses are not entirely avoidable, though, the amount could possibly change. Normally, without resale or competition in the local

exchange services markets, U S WEST would continue to bear sales and product advertising expenses to keep and grow its end-user base.

There is no logic to suggest or hard evidence to show why all those expenses disappear just because of resale or competition. In reality, U S WEST will continue to bear an undetermined amount of "pre-handshake" expenses. Examples of these include expenses for product catalogs and brochures, announcements for new and revised products and technical manuals needed by potential resellers for day-to-day operations. The only difference between a retail and wholesale scenario is that the potential reseller, e.g., AT&T, now assumes the interface role with the end-user customer. U S WEST will now train AT&T who may now train the customer.

Q. PLEASE EXPLAIN HOW "BILLING AND COLLECTIONS" EXPENSES ARE MISREPRESENTED BY MR. MONIGHETTI AS AVOIDABLE COSTS.

A. Billing and Collections expenses are those incurred by U S WEST to bill its customers or end users for consumed services, for example basic exchange service, and to collect those same billed amounts. These expenses are not avoided because of resale — they are only changed in size.

In a resale scenario, U S WEST will still incur expenses to bill resellers for wholesale services they purchase for resale, and will incur expenses to collect those amounts.

Instead, Mr. Monighetti alleges that "AT&T will do its own billing,"[52] and U S WEST assumes they are referring to their own retail customers. If so, Mr. Monighetti is commingling apples (or wholesale) with oranges (or retail). It is true that AT&T can self select or pick any available third party vendor to do their "retail" billing and collections work. U S WEST, though, does not avoid incurring billing and collections expenses on behalf of AT&T and any other potential reseller for "wholesale" goods and services sold to them.

Q. PLEASE EXPLAIN HOW "GENERAL ADMINISTRATIVE EXPENSES" EXPENSES ARE MISREPRESENTED BY MR. MONIGHETTI AS AVOIDABLE COSTS.

A. "General Administrative Expenses" are primarily "common overhead" expenses. This broad term, also standard throughout academia, refers to expenses incurred by the firm as a whole to run its business, and is without direct association to any specific service or service family. As such, these common overhead costs are excluded from U S WEST's TSLRIC costs. How then can these be "counted" as a cost that will be avoided for a service, if it doesn't currently exist within the services' cost study.

Q. PLEASE EXPLAIN WHY "RETURN" AND "INCOME TAXES" EXPENSES ARE MISREPRESENTED BY MR. MONIGHETTI AS AVOIDABLE COSTS.

[52] James P. Monighetti, Rebuttal, April 18, 1996, Exhibit JPM-2, page 1

A. Mr. Monighetti's use of these terms appears uninformed and confusing. He alleges that both return and income taxes should be "reduced by an amount reflecting retail activity."[53]

U S WEST cannot determine by Mr. Monighetti's analysis whether he is addressing income taxes due on taxable income of the business, or whether he is addressing income taxes on the equity part of investors' return on net investment. Again, this is an apples and oranges comparison. Furthermore, U S WEST does not know what Mr. Monighetti means by the term return, as it can be based on different things. Without concrete definitions, AT&T is premature in alleging these expenses are avoidable.

If Mr. Monighetti infers that return is a function of net investment, then this expense is a bona fide capital recovery expense included and accepted as part of all U S WEST's TSLRIC studies, whenever a capital investment is made. To the extent that U S WEST continues to make capital investments, it will be obligated to make a return to investors of the firm to compensate them for use of their funds.

Regarding capital investments, U S WEST projects that by offering resellable services it will make additional capital investments previously unplanned. U S WEST will make these investments in three categories: Billing Systems, Provisioning Systems, and Repair Systems. All these new investments will likely require U S WEST to seek

[53] Ibid. Exhibit JPM-2, page 2.

additional capital funds from investors at large, and in doing so, increases its obligation to pay a return to the same investors. This is a classic case where costs will probably increase. It is totally unclear at this time if those costs will be related to services that will sold wholesale or related to unbundling of related elements. Similarly, if Mr. Monighetti infers that "FIT Gross Up @35%" is the amount of income taxes payable on the equity part of investors' return on net investment — again, this is a bona fide TSLRIC included in all U S WEST cost studies past and present for all services - both wholesale and retail.

VI. TESTIMONY RECOMMENDATIONS

Q. PLEASE SUMMARIZE YOUR TESTIMONY.

A. I have provided data and evidence to show that the AT&T sponsored Hatfield Model is not a TSLRIC Model - either by statute or by AT&T's own definitions of TSLRIC. I urge the Commission to reject the Hatfield Model as inappropriate as a measure of TSLRIC. Further, I have provided data and evidence to show that the newest version of the AT&T Retail Avoided Cost Model suffers from the fatal flaw of not complying with the Telecommunications Act of 1996. Again, I urge the Commission to reject this "newest" version of the AT&T Model.

APPENDIX F

IDENTIFICATION OF WITNESS

Q. PLEASE STATE YOUR NAME AND PLACE OF EMPLOYMENT.

A. My name is Peter Copeland. My business address is 1801 California St., Denver, Colorado. My title is Manager, Issues Management -- Public Policy for U S WEST Communications, Inc. (U S WEST).

Q. PLEASE REVIEW YOUR EDUCATION AND WORK EXPERIENCE.

A. I have a Bachelor of Arts degree from Brown University in Urban Studies and a Master of Public Administration from the University of Colorado. My work experience with U S WEST and Bellcore includes service cost development, jurisdictional separations, rate development, earnings management, and public affairs.

My current responsibilities include the development of regulatory structures that address universal service. In this capacity I developed the U S WEST High Cost Fund Targeting Model, the predecessor targeting model to the Benchmark Cost Model (BCM). Also, I am one of the principal developers of the BCM. Additionally, I have responsibility for representing U S WEST on the

Telecommunications Industries Analysis Project (TIAP). As a member of TIAP, I have been a major contributor to research papers addressing universal service, urban/rural rate deaveraging, interconnection, and loop costs.

PURPOSE OF TESTIMONY

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. My rebuttal testimony addresses the Direct Testimony of Robert A. Mercer on behalf of AT&T Communications. Dr. Mercer advocates the use of the Hatfield Model as a TSLRIC model to develop the cost of the local loop. The BCM has been incorporated into the Hatfield Model as its primary means for developing loop investments. My testimony shows that the Hatfield Model's use of the BCM is inappropriate for developing a TSLRIC loop cost for local service as well as for developing an overall TSLRIC cost for local service.

My testimony provides an overview of the BCM, as filed with the Federal Communications Commission in its Notice of Proposed Rule Making concerning the federal universal service fund. Additionally, my testimony describes the uses for which the BCM is designed and contrasts the

attributes of the BCM with the general attributes of LRIC models.

Q. DID U S WEST FILE THE BCM WITH THE FCC?

A. U S WEST is part of an industry group (Joint Sponsors) that includes MCI, NYNEX, and Sprint that filed the BCM with the FCC.

Q. WHY DID THE JOINT SPONSORS FILE THE BCM IN THE FCC'S NOTICE OF PROPOSED RULE MAKING CONCERNING UNIVERSAL SERVICE FUNDS?

A. The BCM was developed by the Joint Sponsors in response to the FCC's expressed interest in considering a model which develops "proxy" costs for the provision of basic telephone service at the Census Block Group (CBG) level. The Joint Sponsors placed the BCM model on the public record on September 12, 1995 so that other parties would have an opportunity to examine the model prior to filing comments in the Notice of Proposed Rule Making (NPRM) proceeding that were due on October 10, 1995. The BCM provides the commenting parties with a common source of data which utilizes both the concept of Census Block Groups and "proxy" costing. Additionally, the Joint Sponsors have held four workshops across the country in

order that interested parties may better understand the workings of the BCM.

Since the Joint Sponsors have a sincere interest in utilizing the BCM to analyze the targeting of high cost funds, they have made the BCM available for full public scrutiny so that commenting parties may suggest modifications to the model that improve its ability to target high cost support. Thus, the original filing included a copy of the computer software for the model, as well as full documentation of the model algorithms, cost data, and the model data for six states. On November 1, the Joint Sponsors filed data for an additional 17 states and on December 1, 1995 the data for the remaining states were filed (except Alaska). The December 1, 1995 filing included a written summary of data for 49 states plus Washington D.C., as well as CD ROMs that include all the detailed computer runs for each state.

OVERVIEW OF BCM

Q. WHAT ARE "PROXY" COSTS?

A. "Proxy" cost is a term used by the FCC for describing methods for estimating the cost to serve a specific

geographic area without using book cost data of individual local exchange carriers. A "proxy" cost can be an estimate based on a simple single factor, such as the number of households in a geographic area, or something as complex as an engineering process model. In its CC Docket 80-286 NPRM the FCC asked specifically for comments on "proxy" models based on a number of factors such as density, distance from the central office, and terrain. These factors were chosen by the FCC because they are the most significant cost drivers of the local access network. The BCM addresses all of these.

Q. IS THE BCM A "PROXY" COST MODEL?

A. Yes, the BCM is a "proxy" cost model. However, the BCM utilizes high-level engineering process cost estimates to determine a benchmark cost for specific geographic areas. The BCM utilizes a theoretical approach to estimate costs to serve Census Block Groups (CBGs) based on physical attributes of the CBG and its spatial relationship to current central office locations. To a large degree, the BCM uses publicly available information in the development of its cost estimates.

Q. WHY DO YOU USE PUBLICLY AVAILABLE DATA IN THE BCM?

A. Publicly available information is not necessary for the development of "proxy" costs in models such as the BCM. However, the use of publicly available data adds value to the modeling process because this data can be independently checked and verified. Additionally, public data sources add to the consistent and uniform application of the model's cost estimates when identifying high cost areas across the nation.

Q. **WHAT NETWORK ELEMENTS DOES THE BCM INCLUDE IN ITS DESIGN?**

A. The BCM includes the major network cost drivers that help identify high cost areas. These network elements include the costs of cable for both feeder and distribution plant, the structure costs for feeder and distribution cable (e.g. cost of conduit, interduct, poles, and the capitalized cost of installing cable), electronic circuit equipment costs, and the local switch costs. The model does not include inter-office facilities.

Q. **WHAT ARE CENSUS BLOCK GROUPS (CBGs)?**

A. Census Block Groups are physical areas defined by the U.S. Bureau of the Census. These geographic areas are used for enumeration purposes by the Census Bureau. They are part of a geographic hierarchy that starts with census blocks, census block groups, and census tracts and extends to county and state geography. There are approximately 225,000 CBGs in the United States.

A CBG generally contains between 250 and 550 households, with an average of 400 households. However, there are some extremes on both ends of the spectrum where a CBG may have as few as half a dozen households or as many as thousands of households. There are also CBGs with no population.

Since CBGs are designed to have similar numbers of households, their geographic size varies inversely to household density. In urban areas, a CBG may be an area of several blocks, while in rural areas, the CBGs may be areas of many square miles.

Q. WHY DOES THE BENCHMARK COST MODEL UTILIZE CBGs AS THE GEOGRAPHIC UNIT FOR DETERMINING A BENCHMARK COST?

A. The Benchmark Cost Model uses CBGs because most other geographic units create too much cost averaging for

targeting high cost areas. For instance, the geographic area currently used for qualifying for federal high cost funds is the study area. A study area represents a local exchange carrier's operations within a state. It can be small (a wire center or exchange) in the case of a small independent telephone company or large (most of a state) in the case of a Regional Bell Operating Company.

The cost data developed for a study area are highly averaged, if the study area is large. For example, in Utah, U S WEST's costs of serving metropolitan Salt Lake City are averaged with the costs of serving rural areas of Utah such as the areas around Ephraim, Helper or Mt. Pleasant.

Other parties have proposed that geographic areas for determining high cost be defined as wire centers. While this is an improvement over the use of study areas, costs for wire centers are also highly averaged. The cost of serving customers located close to the central office are lower than the costs of serving customers located further away from the central office (shorter loops cost less than longer loops). This situation is most extreme in rural and some suburban wire centers. The cost of serving the in-town customers in a rural

wire center is much lower than the cost of serving farms and ranches outside of town. These differences are lost if the geographic unit is the wire center. However, if the basic geographic unit is the CBG, these differences can be recognized because there are generally many CBGs per wire center.

The use of CBGs facilitates the differentiation of low cost and high cost areas based on telephone plant engineering principles and the impact of local terrain on the cost of placing telephone facilities. This allows high cost support to be specifically targeted only to locations where subsidies may be needed to provide basic telephone service.

Q. WHAT DO THE BENCHMARK COST MODEL CBG COSTS REPRESENT?

A. The cost estimates generated by the Benchmark Cost Model for each CBG represent a hypothetical cost of placing new loop plant from currently existing central office locations using today's technology and publicly available investment information. Every U.S. household reflected in the 1990 Census is assumed to be connected to the network in the same time frame and in a uniform manner. This is done by associating each CBG with the closest existing central office location and using

spatial relationships between the CBG and central office to determine the serving arrangement. CBGs are close in size to typical telephone company serving areas (i.e., around 400 units).

The BCM creates a highly efficient investment level because all cable routes utilize the optimum cable sizes to serve the households that existed in 1990 (plus a typical engineering planning horizon). The investment level in the model reflects the model assumption that the plant is placed at a single point in time, unlike actual book investment which reflects the additional investments made over time to reinforce loop feeder routes to meet the needs of additional distribution plant growth or utilization.

The BCM utilizes loop and switching technology types currently available for deployment. Three types of loop technology are utilized by the model: Analog copper facilities and two different fiber-based subscriber loop carrier systems (SLC Series 2000 and American Fiber Communications Next Generation Digital Loop Carrier System). Switching costs are calculated using currently available digital technology based upon estimated switching demands of the associated CBGs. The BCM incorporates unit investment tables for the above

technologies based on the manufacturer's list price or prices for its lowest volume customers. The BCM user may adjust the discount level individually for copper cable, fiber cable, electronic equipment, and switching equipment.

Thus, the BCM costs reflect the costs a telephone engineer would face in installing new service to an area. In this case the entire U.S. is treated as a new service area, utilizing a demand based upon a single line for every 1990 household.

The cost differentials between CBGs reflect differences in the distance from the central office, the density of households, and the impact of terrain upon the cost of placing telephone plant. Terrain factors that are examined for each CBG include: the depth to bedrock, the hardness of bedrock, the depth to the water table, and the surface soil texture. The BCM utilizes placement cost factors based on nationwide average contractor data that reflects additional costs caused by different terrain. Because of the consistency of the factors considered and their uniform application, costs from CBG to CBG are directly comparable.

Q. YOU HAVE DISCUSSED THE DEVELOPMENT OF BCM COSTS. HOW DOES THE BCM CALCULATE ITS INVESTMENT COSTS AND THE RECURRING EXPENSES ASSOCIATED WITH THAT INVESTMENT?

A. The BCM engineering algorithms discussed in the paragraphs above are designed to calculate capitalized investment associated with basic telephone service. The BCM utilizes an annual cost factor to translate investment to a recurring cost.

Two different annual cost factors are included in the BCM model since the Joint Sponsors have differing opinions as to the appropriateness of the two factors. The first annual cost factor utilized in the BCM represents a relationship between book expenses and gross book investment. This factor is based upon nation-wide data as reported in the FCC's ARMIS report. The second factor is based upon a predominantly undocumented nation-wide estimate of the relation of expenses to gross investment calculated by the MCI/Hatfield study from 1994. Both factors utilize the same capitalized investment but produce different monthly costs. Both monthly costs are included in the data filed with the FCC.

Q. WHICH ANNUAL EXPENSE FACTOR DOES U S WEST ENDORSE?

A. For "proxy" costing, U S WEST feels that the annual cost factor based on the relationship of book expenses and book investments from the ARMIS report more accurately reflects a recurring cost of basic telephone service. The ARMIS factor takes into account the relationship between investment, expenses and overheads reflected in the historic operations of Local Exchange Carriers (LECs). At the same time, use of this factor encourages efficiency, since it is applied to an efficiently designed network investment level.

Q. WHAT ARE THE INFIRMITIES OF THE MCI/HATFIELD FACTOR?

A. The MCI/Hatfield factor represents a summation of account specific expenses which are aggregated into a single factor. This factor also excludes a number of expenses (e.g. marketing expenses, some customer operations expenses). For the expenses that are included in the MCI/Hatfield factor, there are two types of sources for their underlying expense data. One source is account specific historically derived expense/investment relationships from ARMIS data. The second source of account specific expenses are various studies produced in some regulatory proceedings and some studies produced internally by Hatfield Associates. The

MCI/Hatfield expenses derived from historical relationships are questionable because it is not clear that the particular expenses they are estimating change in a linear manner with changes in investment. In other words, the use of these expense factors produce an extremely low level of expense that cannot be justified through anticipated changes in operational methods. The account specific factors based on various studies are also questionable because no documentation has ever been provided to describe the nature and circumstances of the particular expenses.

Additionally, the MCI/Hatfield assumptions concerning depreciation are particularly disturbing. The use of an average investment life of 18 years appears unrealistically long in the current telecommunications environment.

Q. IT APPEARS THE GEOGRAPHIC INFORMATION UTILIZED IN THE BCM IS VERY DETAILED. HOW DETAILED ARE THE ENGINEERING ASPECTS OF THE MODEL?

A. The purpose of the BCM is to uniformly identify high cost CBGs where subsidies may be needed to provide basic telephone service. In order to perform this task, the model inputs very detailed geographic information and

then applies high-level engineering designs of the major cost components of basic service. The model includes only the network cost drivers that contribute to the differentiation of high cost and low cost areas. This high-level engineering approach is utilized to keep the complexity of the model to a manageable level, while allowing use of the most important cost drivers.

BCM CONTRASTS WITH GENERAL LRIC METHODOLOGY

Q. IS THE BCM A LRIC STUDY OF RESIDENTIAL SERVICE?

A. No. The BCM is designed to target high cost CBGs. It does not quantify the capital costs of all investment in plant and equipment and the direct expenses associated with a LRIC study. Specifically, the BCM is a high level engineering process model that identifies only the major cost components of residential service that differentiate high cost CBGs from low cost CBGs. For example, the BCM currently utilizes a simplified architecture for distribution plant that produces an accurate portrayal of rural distribution plant but severely underestimates distribution costs in urban areas. This simplification has very limited impact on the BCM's ability to identify high cost CBGs. However,

in order to develop a LRIC cost for a total service, such as AT&T and Dr. Mercer advocate, all the relevant cost components of providing that service must be included in the LRIC study.

Another aspect that differentiates the BCM from LRIC studies is the LONG RUN nature of LRIC studies. The long run nature of a LRIC study manifests itself in two areas: costs and demand. While the BCM does utilize forward-looking technology that is currently available for its investments, the expenses utilized by the BCM (both the ARMIS or the MCI/Hatfield factors) are not forward-looking. The demand for access lines that the BCM utilizes is a single line per each household that existed in the 1990 Census. This is not a long run demand for access lines and will understate the costs.

It is also important to understand what the BCM does not estimate: the actual cost of any telephone company, nor the LRIC cost that an individual company might experience in providing telephone service today. There are at least four reasons why the BCM does not define the costs of individual companies. First, as stated above, the BCM uses national level cost data for the major network components, where individual companies' material prices are based on company-specific contracts.

Second, the structure costs of the network are also based on national average contractor prices. Third, individual companies may use different forward-looking technology or mix of technologies than the BCM. Finally, the BCM utilizes a hypothetical network design and does not attempt to replicate any individual company's network arrangements.

Therefore, using the BCM to develop a price floor or as a cross-subsidy test for residential service would be a misuse of the model.

PROPOSED ENHANCEMENTS TO THE BCM

Q. ARE THERE ANY PLANS TO CHANGE ANY ASPECTS OF THE BCM?

A. Yes. The Joint Sponsors filed the BCM with the FCC in advance of the original CC Docket 80-286 comment date in order to provide other parties the opportunity to provide feedback on improvements that could be incorporated into the BCM. Based upon comments made by members of the industry and regulators in the comment cycles of the NPRM, in the four workshops the Joint Sponsors held across the nation, and based upon the analyses of U S WEST and the other Joint Sponsors, a number of model enhancements are under development. A

list of these enhancements was filed in an Ex Parte letter to the FCC on February 21, 1996. This letter is included as Exhibit 1.

The planned enhancements address a number of areas in which the FCC has invited comment in the new universal service proceeding, CC Docket 96-45. In this proceeding the FCC incorporated the entire CC Docket 80-286 record relating to the BCM.

Below I provide a brief description of the most important enhancements to the BCM that are currently in progress.

Population Distribution

One of the most important areas of concern by commenting parties has been the assumption of uniform population distribution in rural areas. The BCM will incorporate a module to modify rural CBG input data to reduce the square mile area of the CBG to an area that reflects the clustering of households. This will be done utilizing a third party road network database to identify the areas within the CBGs which have the highest probability of containing households.